

wood roof of the hall, with large moulded arched ribs, coming far down the wall, with king-post on the apex, is ascribed to the same date, but seemed to us on cursory inspection to belong to a more recent period. A view of this roof is given in the 5th edition of the Oxford Glossary, just now published.* The church at Sutton Courtnay is of early foundation. The tower is Norman; the rood screen remains; and over the south porch is a small apartment, such as is found in the same position in many churches, sometimes called in modern times a *parvise*, but without much authority;—this term (or “paradise”) applying rather to an open space in front of, or round a church. Some of our readers will remember that the open space next the church of Notre Dame in Paris, as well as at other churches in France, is still called *Le Parvis*.

An ancient building is a source of enjoyment and pleasure even beyond the physical beauties it may exhibit. It must be Bulwer who says,—“There is a sense of hearing that the vulgar know not; and the voices of the dead breathe soft and frequent to those who can unite the memory with the faith.”

And now back to Oxford.

DOMESTIC USE OF GAS FOR LIGHTING AND HEATING.

THE great aim and end of all our endeavours to obtain for the public an abundant supply of cheap and good gas, as often hinted, has been the promotion of its extensive use in private dwellings, both as an economic fuel, for heating and cooking, and as a cleanly, cheap, and cheerful light. The efforts of ingenious men, therefore, to assist both us and themselves in the attainment of this very desirable end cannot fail to meet with our encouragement and approval. We are glad to find that decided and important efforts are being made with this view, under the firm and expressed persuasion that the time has now come when such efforts will be well repaid by the public patronage.

That this time has now come there is reason to believe. The metropolis will soon, it is to be hoped, be placed in a position which will enable and induce it to set the example to the whole country. The price and the quality of gas have hitherto been such in London as to offer no inducement to the extension of its use in domestic economy; hence the movement, which has been supported probably more by would-be consumers than by those already using it. And that this movement will bring gas, for light and heat, within the reach of all—even the poorest—who can afford either light or fuel in their dwellings, is now becoming the opinion of those professionally engaged in its manufacture. We may quote, for instance, from the evidence laid before the late Parliamentary Committee on the Great Central Gas Consumers' Bill, the opinion of one who has “had the experience of nearly half a century in the manufacture of gas,” (although full of prejudices, by the way) and whose evidence was disinterested enough to militate at least as much against the Bill as in its favour.

Mr. Clegg thought that the reduction to 4s. would stimulate consumption, and would bring it within every one's reach for light and heat,—for cooking, for instance. Witness knew hundreds of gentlemen who would not have a fire in their house. Had himself used gas for cooking, with perfect success.

Cross-examined by Mr. Burke.—Considered there would be a very great increase in the consumption of gas, but could not tell which company would get it. [It will take them all ere long, and with extended works, too, to satisfy the public demands.] *Four shillings was the turning point at which people would cook by gas instead of by coals.* Some cook at 6s. and some at 7s.; but there is no mistake about it at 4s.

We lately witnessed the results of one of those endeavours just noted to meet the forthcoming demand by improved apparatus adapted to domestic uses, whether on a small

scale or a large, as well as to more extended purposes of profit and sanitary welfare, public and private.

The chief, or at least the most novel, of these inventions, consisted of a gas-heated bath patented by Mr. Defries. The patentee appears to claim no little credit for the principle of this apparatus as well as for the adaptation of that principle to such a purpose, but the fact appears to be that it constitutes simply an adaptation of the tubular-boiler principle. In the present instance the metallic tubes, in which the cold water is exposed to the heat of a tray of gas jets, are placed below the bath, which is one of sheet metal. They are, in fact, flattened, shallow canals rather than tubes, and are so placed with relation to the burners that great facility is afforded to the communication of the heat to the water. As it is poured into the bath the cold water escapes at bottom into the tubes, which it therefore first of all fills, and as it becomes heated it re-ascends into the bath through orifices at the top, so that a rapid and uninterrupted circle of action is at once established, by means of which the water is heated. Boiling water begins to appear in the bath in one minute, and within six minutes forty-five gallons of water, at a temperature of 62 deg. Fahrenheit, are heated uniformly up to 106 deg. The quantity of gas consumed, as indicated by meter, was between twenty-three and twenty-four feet in the course of five minutes, when the water was heated enough for use as a hot-bath; the expense of heating, at 6s. a thousand feet, the charge still, we presume, in Regent-street, being really little more than one penny, even at that now almost obsolete price.

The other invention referred to consists in a series of gas cooking-stoves. By means of one of these, a single ring of jets, consuming, it is said, only 12 feet of gas an hour, has compartments in which to bake and boil, steam, roast, and broil at the same time. We can see no difficulty in the way of a considerable reduction in the prices of more complete articles than some of the cheaper order of these, and it should be an especial care of inventors or manufacturers to keep the poorer classes in hot water, economically supplied.

The *Atmopyre* is the name of a curious arrangement for warming, cooking, &c. by means of gas, invented by Mr. D. O. Edwards, a surgeon. The gas is burnt on the outside of small “hoods,” made of the material of the common tobacco-pipe, perforated with holes the 50th part of an inch in diameter, in imitation of Sir Humphrey Davy's safety lamp reversed. Gas is introduced into it, and there mixes spontaneously with atmospheric air, forming a kind of artificial fire-damp. This mixture, being ignited on the outside of the vessel, discharges itself in numerous diminutive explosions; the earthenware is enveloped in a coat of pale blue flame, becomes soon red-hot, and presents the appearance of a solid red flame.

The “hood” is the exact converse of Sir Humphrey's lantern. The explosive gas is inside, instead of outside: the flame on the exterior is prevented from penetrating and kindling the contents of the chamber by the narrowness of the apertures. The explosive mixture, being minutely divided, is burnt piece-meal at the outer orifice of each hole, producing a slight murmuring noise, and great heat is evolved, which, instead of escaping, accumulates.

A single “hood” being placed on a burner, is heated to dull redness in the course of a minute; but an aggregate of “hoods” placed in juxtaposition, and inclosed in an earthenware case, are heated to an orange colour, and the case itself becomes bright red. In respect of economy, the expense of the new fuel, at the present price of gas, is rather greater than the old; but the inventor claims a saving in collateral circumstances. Each “hood,” he says, consumes five-sixths of a cubic foot of the common carburetted hydrogen gas per hour, and a battery of eight “hoods” is sufficient to warm a good-sized room, measuring about 4,000 cubic feet, if the doors and windows fit tolerably close.

The fitness of the “atmopyre” to secure a perfect ventilation is thus exemplified for a parlour by the inventor. A battery of twelve “hoods” is inclosed in an earthenware case, which, becoming heated to 400 degrees or 500

degrees Fahrenheit, constitutes a repository of heat. This is placed in an outer case of china, terra cotta, common ware, or any other non-refractory substance. The products of combustion are carried away by a small pipe entering the chimney. The fresh air is brought from outside the house, through a large pipe about 6 inches in diameter, which communicates, by means of a valvular iron plate, with the space contained between the two cases. The air ascends in this area in large quantities, is warmed in its transient contact with the inner case, enters the room through large holes in the top of the stone at 120 degrees Fahrenheit, and diffuses itself equally through the apartment, maintaining such a temperature as the inmates may desire.

The fire may be concentrated in one part of a room, or distributed over the several sides. The strictest economy would require that the “chimney,” or “way out,” for the products of combustion, should be in alto relievo within the apartment, in order that the least possible heat should be lost. This would be a kind of æsthetic difficulty, that would replace the prevailing sooty chimney-pot, upon which it is so rare a triumph of art to affix any impress of beauty.

We have received from the commissioners for lighting the parish of St. James, Westminster, the following report of the results of experiments made by Mr. Leslie, at their request, in the presence of a deputation from their body, viz.:—Lord De Mauley, Hon. Frederick Byng, Messrs. Bidgood, Clark, Gabriel, Rose, Sasse, Tritton, and Woollams, as to the comparative value of the gas supplied by the Chartered Gas Company, and that made by the Western Gas Company from Cannel coal. Each company supplied its own burners, and in every instance the unanimous vote of the deputation decided the point of equal illumination:—

EXPERIMENTS.	HOVELY CONSUMPTION.		EQUAL ILLUMINATION.	
	Feet. Testas.		Distance from Photometer. Feet. Inches.	
“First. Chartered Gas bat's-wing, using Chartered Gas..	4	5	10	5
“Western Gas bat's-wing, using Western Gas ..	2	8	9	7
In this experiment the consumption of the Chartered was 60/71 per cent. more than the Western; but the increase of light was only 18/13 per cent.				
Second. Chartered Gas bat's-wing, using Chartered Gas..	4	5	11	5
“Western Gas fish-tail, using Western Gas ..	2	53	8	7
In this experiment the consumption of the Chartered Gas was 76/47 per cent. more than the Western; but the Chartered produced 76/92 per cent. more light.				
Third. Chartered Gas bat's-wing, using Chartered Gas..	4	5	9	1
“Leslie's burner, using Western Gas	3	0	10	11

In this experiment, although the Chartered bat's-wing consumed 50 per cent. more gas than Leslie's burner, Leslie's burner produced 44/44 per cent. more light.

These experiments show several points. First, that although the illuminating power of the Western Company's gas made from Cannel coal is much greater than that of the Chartered, it is not so much so as to enable the former to maintain the high price they put upon it; 2ndly, that the “bat's-wing” burner is superior to the “fish-tail,” and 3rdly, that Leslie's burner is to an extraordinary extent better than the best of them.

Having expressed a good opinion of this burner in the first instance (and which we have continued to hold, notwithstanding assertions to the contrary by persons who have been resolutely opposing its use), we are glad to find our own views now fully borne out. The evidence given to the House of Commons on the Central Gas Company's Bill, by Mr. Bokenham, the superintendent of the Inland Department of the London Post-office, is even more conclusive on the point. It shows that the consumption of gas in the year ending Jan. 6, 1848, was 8,707,700 cubic feet, which, at 7s. per 1,000, then paid, came to 3,047l. 13s. 10d.; while the quantity of gas

* The 5th edition of this valuable work contains much additional matter, and has been revised throughout. We shall take an early opportunity to recur to it.